

WE CLAIM:

1. A method for preparing a catalyst comprising a zeolite and a low acidity refractory oxide binder which is essentially free of alumina comprising:
- (a) preparing an extrudable mass comprising a substantially homogenous mixture of zeolite, water, a source of the low acidity refractory oxide binder present which comprises an acid sol, and an amine compound,
 - (b) extruding the extrudable mass resulting from step (a),
 - (c) drying the extrudate resulting from step (b); and,
 - (d) calcining the dried extrudate resulting from step (c).
2. The method of claim 1 wherein step (a) is performed by first mixing the zeolite and the acid sol into a first homogeneous mixture and subsequently adding the amine compound to the first homogeneous mixture such that the pH of the resulting second mixture is raised from below 7 to a value of above 8.
3. The method of claim 2 wherein the amine compound is added in step (a) within 20 minutes of performing step (b).
4. The method of claim 1 wherein the zeolite content, on a dry basis, is below 50 wt% as calculated on the finished catalyst and wherein the low acidity refractory oxide source used to prepare the extrudable mass in step (a) further comprises a powder of the low oxide refractory source.

5. The method of claim 1 wherein the low acidity refractory oxide binder is silica.

6. The method of claim 5 wherein the low acidity refractory oxide source used to prepare the extrudable mass in step (a) further comprises a powder of silica.

7. The method of claim 1 wherein the amine compound is ammonia.

8. The method of claim 1 wherein the zeolite is selected from the group consisting of ZSM-5, ZSM-12, ZSM-22, ZSM-23, and SZZ-32.

9. The method wherein the catalyst produced by the method according to claim 1 is subjected to a dealumination treatment.

10. The method according to claim 9 wherein the dealumination treatment is performed by a process in which the zeolite is contacted with an aqueous solution of a fluorosilicate salt wherein the fluorosilicate salt is represented by the formula:



wherein A is a metallic or non-metallic cation other than H⁺ having the valence b.

11. The method wherein a catalyst prepared by the method of claim 1 is subjected to a cation exchange treatment wherein a palladium, platinum or nickel metal is loaded on the catalyst.

12. A process for hydroprocessing a hydrocarbon feedstock comprising the steps of contacting said hydrocarbon feedstock with the catalyst produced according to the method of claim 1 at an elevated temperature and pressure optionally in the presence of hydrogen.

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13. The process of claim 12 wherein the process is a catalytic dewaxing process.

14. The process of claim 12 wherein the process is a xylene isomerization process.

15. A hydroprocessing catalyst comprising a zeolite and a low acidity refractory oxide binder which is essentially free of alumina produced by the process of claim 1.

16. The hydroprocessing catalyst of claim 15 comprising a zeolite, a low acidity refractory binder which is essentially free of alumina and at least one Group VIII metal cation.

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